

# Dense Non-aqueous-Phase Liquid Integrated Product Team (DNAPL IPT)

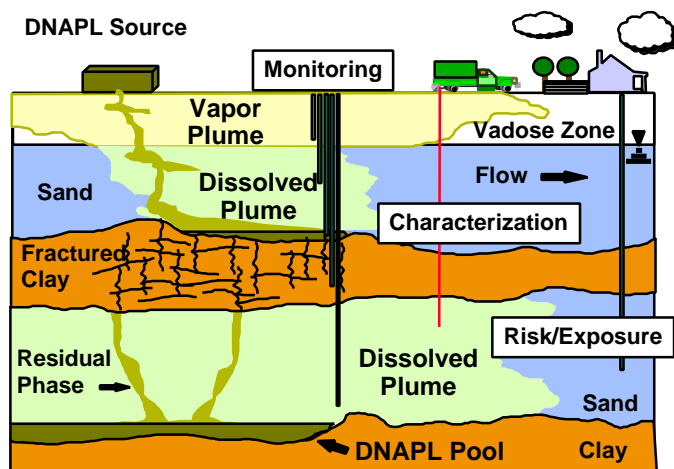
Bringing Multi-agency Expertise Together to Solve Common Problems

## THE PROBLEM

Within the Air Force, the second most common restoration problem concerns soil and groundwater contaminated with solvents, primarily trichloroethylene (TCE) and perchloroethylene (PCE). The Air Force may have more than 600 sites contaminated with such compounds. Most of the processes employed today to treat or contain chlorinated solvents involve pump-and-treat (P&T) or dig-and-burn concepts. These options are far too costly and time-consuming to be effective in remediating solvent-contaminated sites. Operations and maintenance (O&M) costs for P&T systems alone can run as much as \$400,000-\$500,000/year/site. Moreover, dense non-aqueous-phase liquids (DNAPLs) are not susceptible to remediation by P&T.

## THE NEED

Successful remediation of many solvent-contaminated sites relies on removing the DNAPL source. This consists of organic compounds that tend to sink and dissolve to a limited extent in water. Because of these properties, DNAPLs are difficult to locate with today's characterization tools. Technologies are also lacking to detect DNAPLs. Consequently, new technologies are critically needed to detect and remove DNAPLs from the subsurface and treat the remaining chlorinated solvents in situ in a timely and cost-effective manner.



The DNAPL Problem

## THE TEAM

In August 1995, the US Air Force Research Laboratory, Materials and Manufacturing Directorate, Airbase and Environmental Technology Division (AFRL/MLQ), Tyndall AFB, FL, convened the Dense Non-aqueous-Phase

Liquid Integrated Product Team (DNAPL IPT) to address this need. Because of the pervasiveness of chlorinated-solvent contamination across the federal agencies, the membership of the DNAPL IPT has increased to include technology developers and field users from the Army, the Navy, the DOE, and the EPA. Members actively participate in consortia with similar goals/missions such as the Remediation Technologies Development Forum Bioremediation Consortium and Permeable Barriers Action Team, the DOD/Advanced Applied Technology Demonstration Facility, and the DOD TCE Working Group.

The DNAPL IPT is chaired by AFRL/MLQ. Other Air Force participants include the AFRL Occupational and Environmental Health Directorate, USAF Material Command Civil Engineering, HQ USAF Air National Guard, the USAF Center for Environmental Excellence, and the Air Logistics Centers. Other agency participants include the Army Environmental Center, the Naval Facilities Engineering Service Center, the DOE Sub-surface Contaminant Focus Area, and EPA's Technology Innovation Office and Laboratories.

## OBJECTIVES

The DNAPL IPT team is dedicated to providing DOD, DOE, and EPA guidance on cost-effective characterization technologies, treatment technologies, and methods to reduce long-term monitoring and operation costs with current technologies. The team supports the DOD TCE Working Group initiative to change the minimum regulatory TCE cleanup standard. This has the potential to significantly reduce the number of sites requiring remediation. The IPT encourages multiagency technology demonstrations to leverage resources and eliminate duplication of effort. An additional goal is to promote better information crossfeed between agencies and to site managers, communicating technology demonstration successes and failures.

## POINT OF CONTACT

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